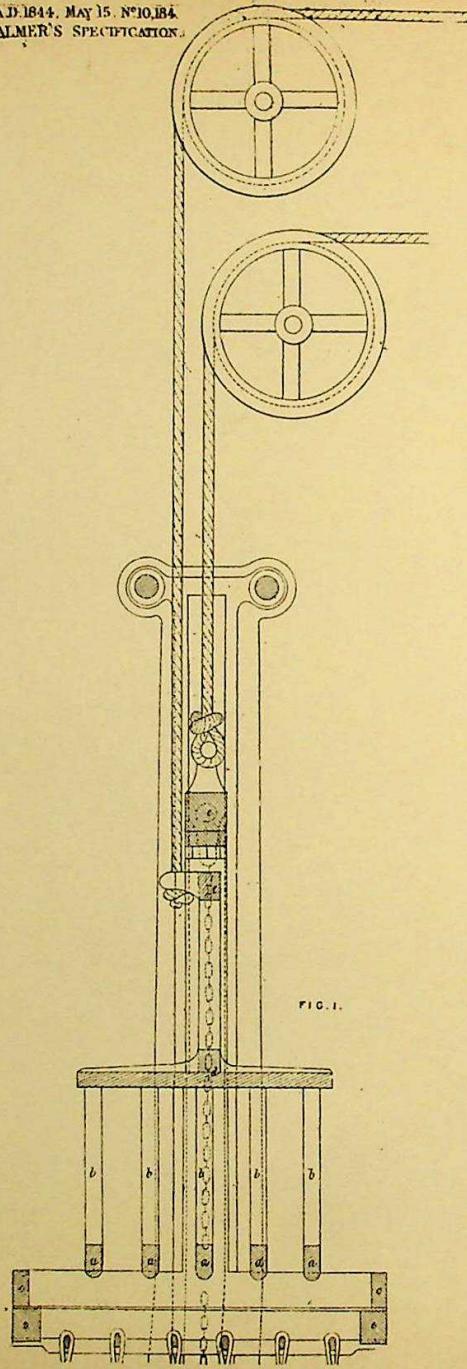


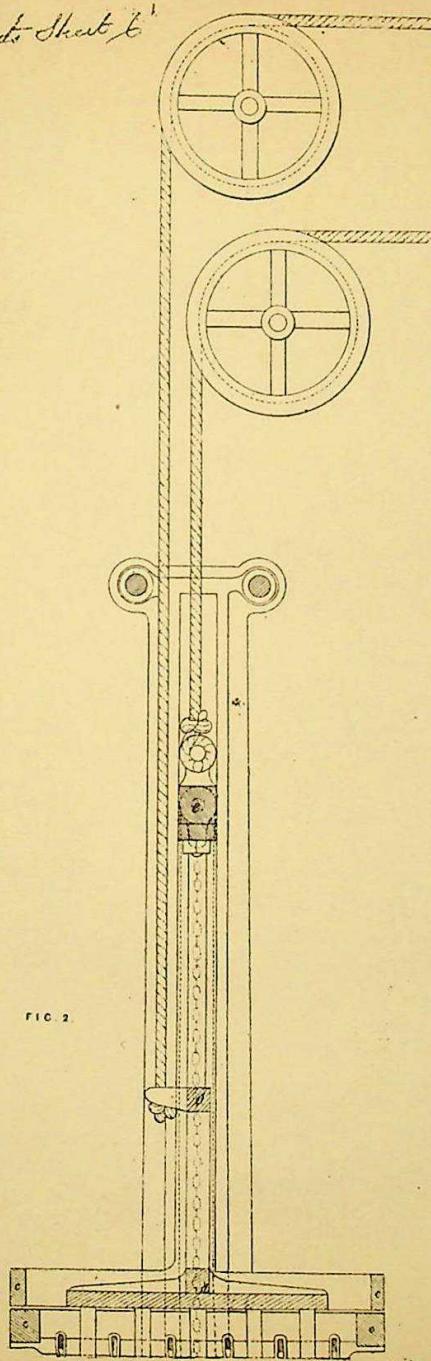
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PALMER'S SPECIFICATION.

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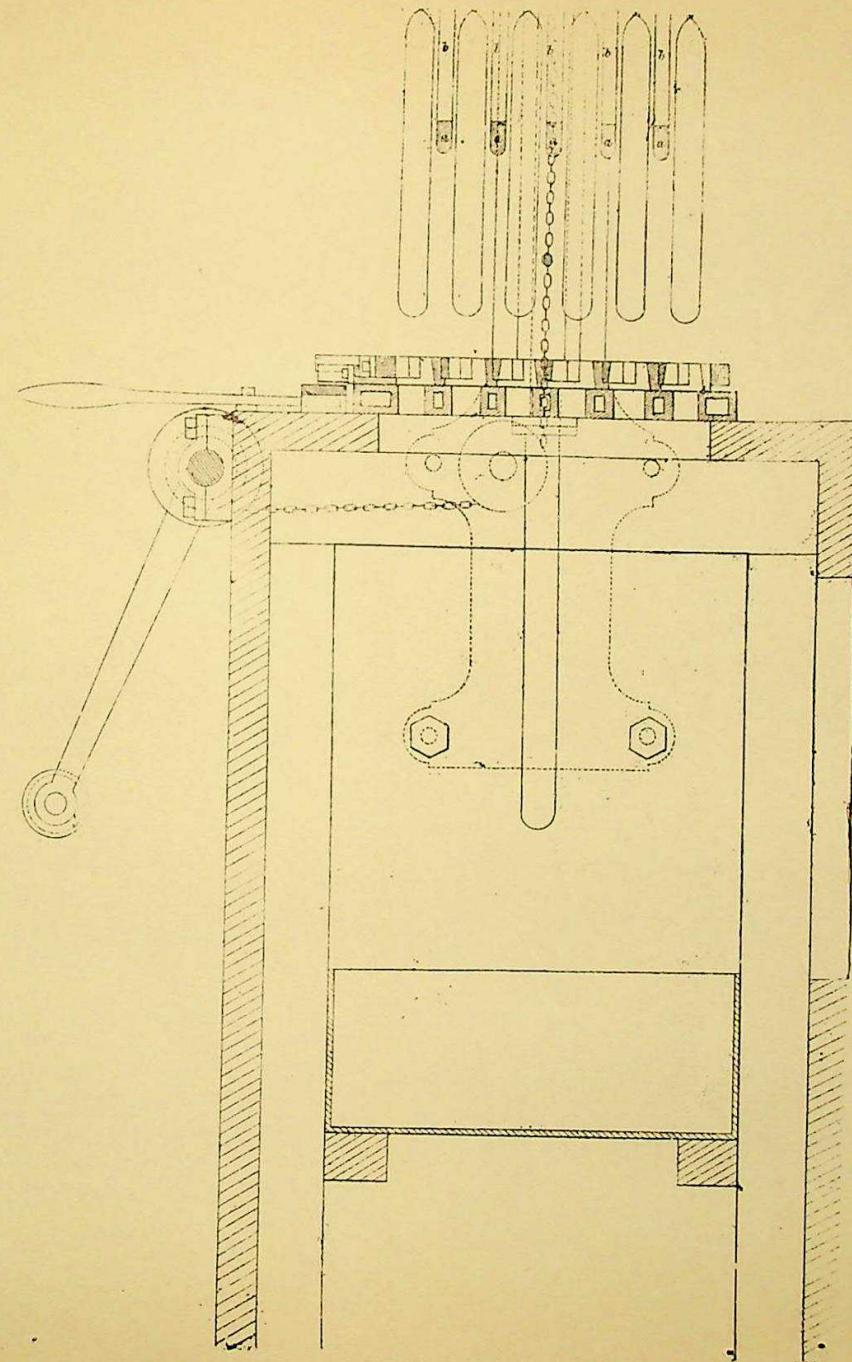
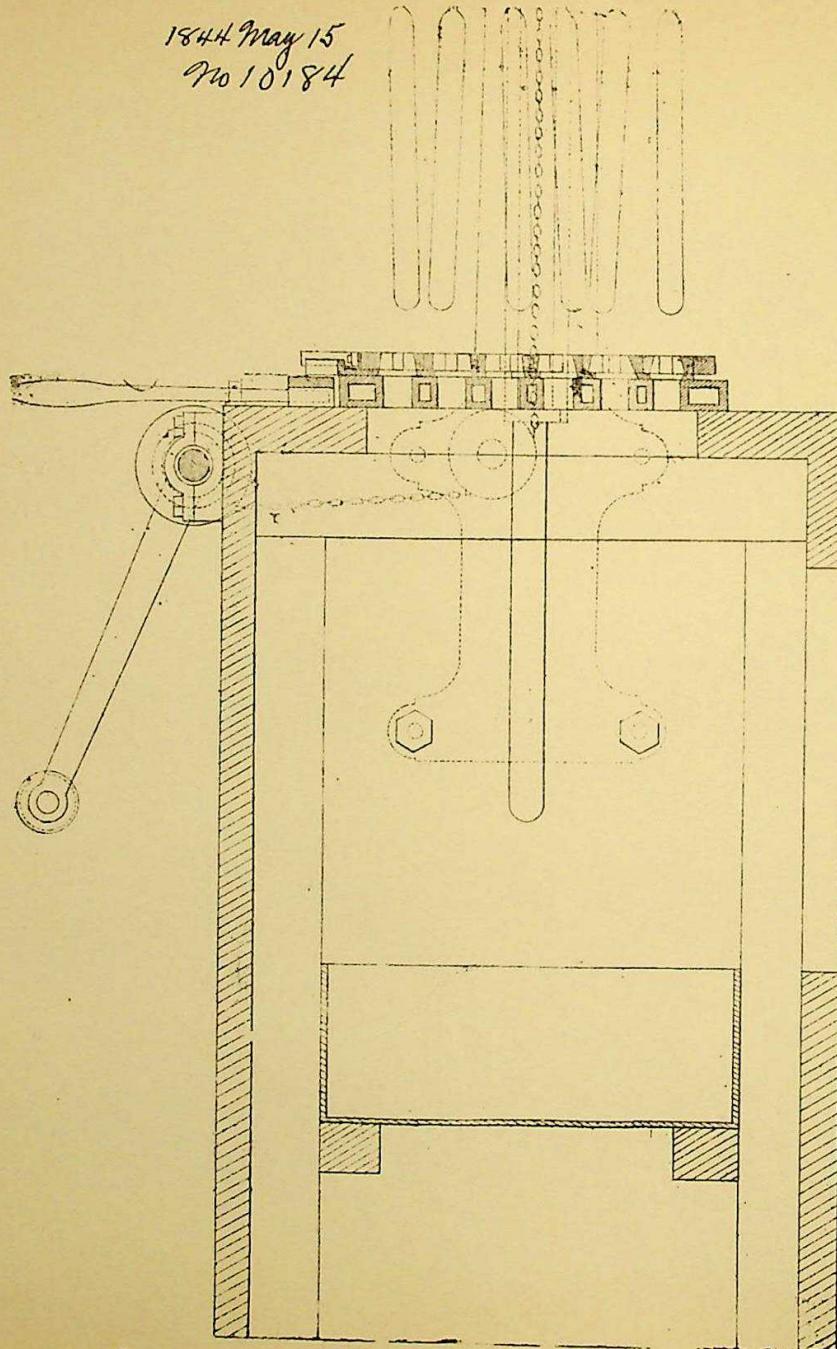
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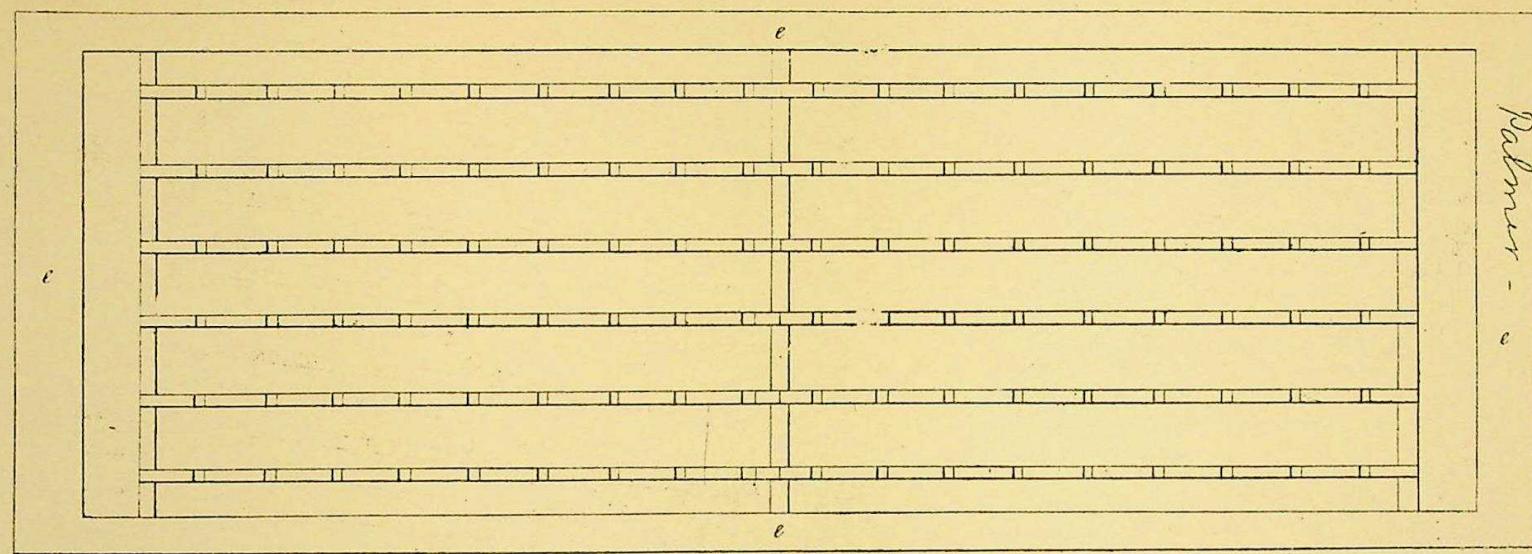
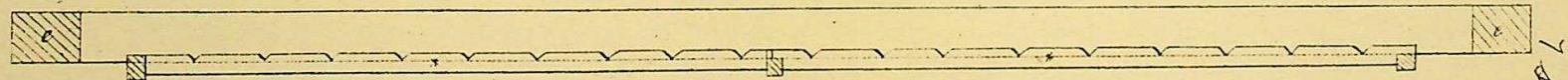


FIG. 4.

Section



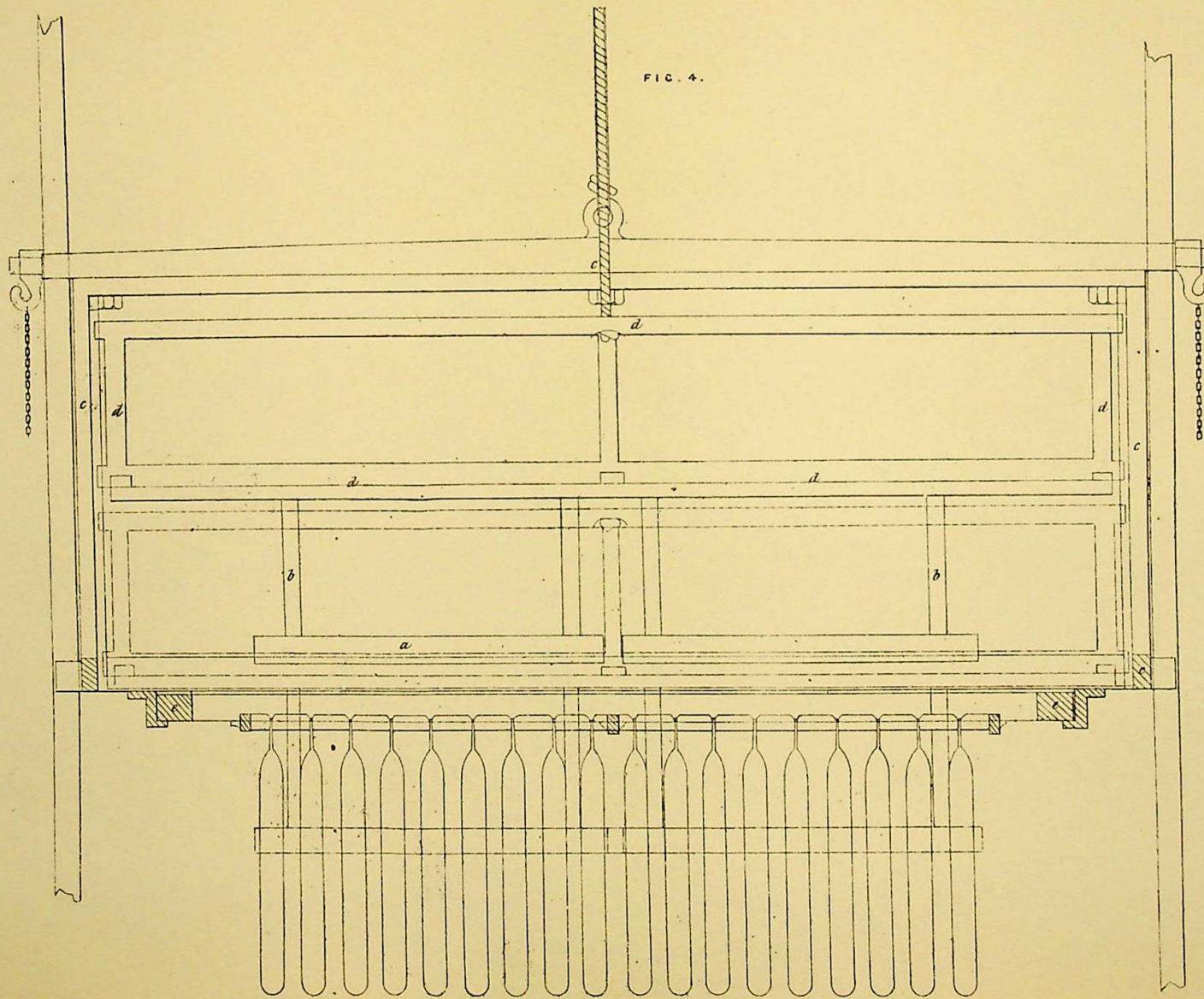
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One of the Bars by which the Candles are suspended



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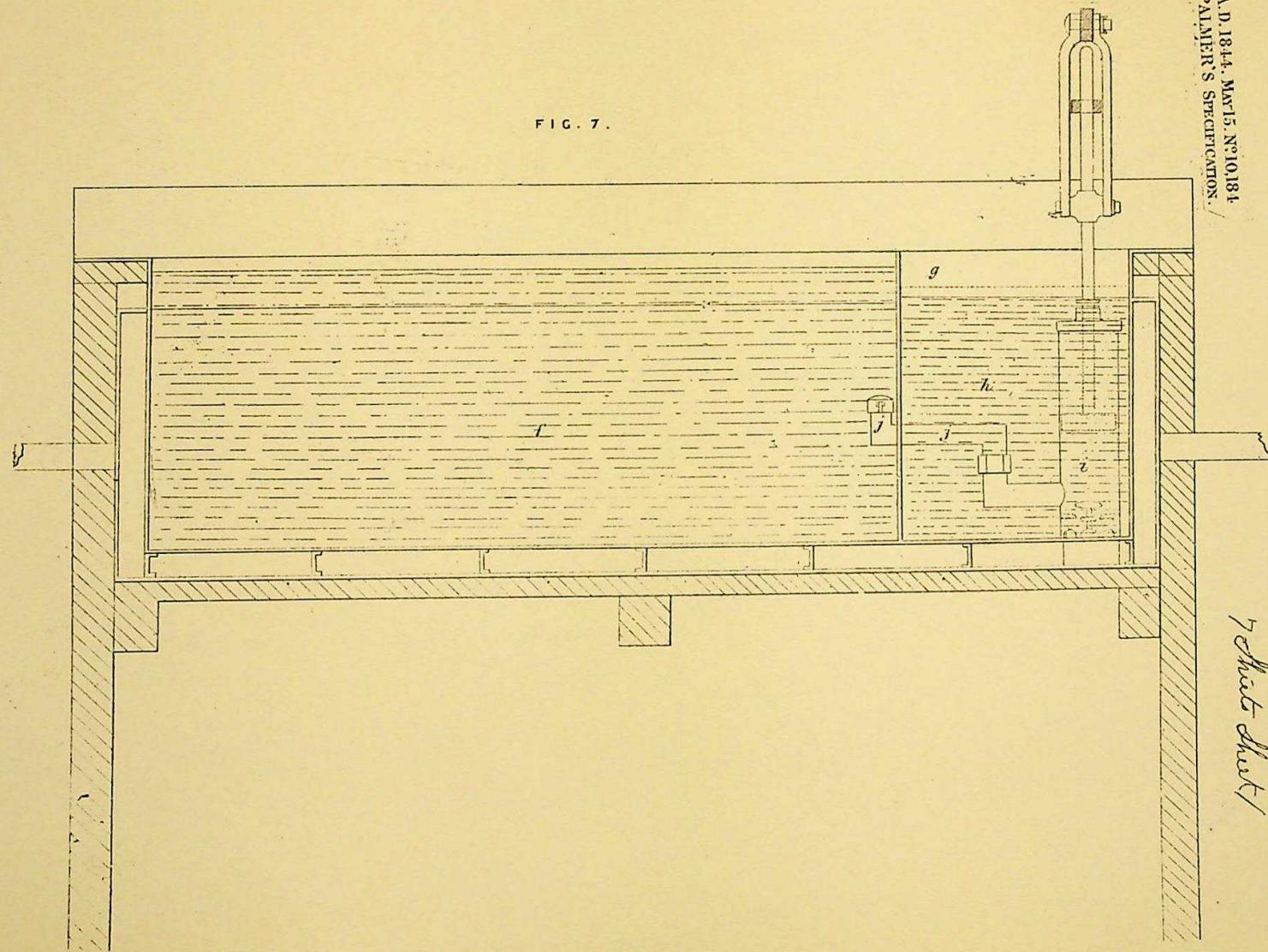


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FIG. 7.



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Patent Office



A.D. 1844 N° 10,184.

Candles, and Wicks for Candles and Lamps.

PALMER'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, WILLIAM PALMER, of Sutton Street, Clerkenwell, in the County of Middlesex, Manufacturer, send greeting.

WHEREAS Her present most Excellent Majesty Queen Victoria, by Her Letters Patent under the Great Seal of Great Britain, bearing date at Westminster, the Fifteenth day of May, in the seventh year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said William Palmer, Her especial licence, full power, sole privilege and authority, that I, the said William Palmer, my executors, administrators, and assigns, or such others as I, the said William Palmer, my executors, administrators or assigns, should at any time agree with, and no others, from time to time and at all times during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, my Invention of "IMPROVEMENTS IN THE MANUFACTURE OF WICKS FOR CANDLES AND FOR LAMPS, AND IN THE MANUFACTURE OF CANDLES;" in which said Letters Patent is contained a proviso, that I, the said William Palmer, shall cause a particular description of the nature of my said Invention, and in what manner the same is to be performed, to be inrolled in Her said Majesty's High Court of Chancery, within six calendar months next and immediately after the date of the said in part recited Letters Patent, as in and by the same, reference being thereunto had, will more fully and at large appear.

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A.D. 1844.—N^o 10,184.*Palmer's Improvements in the Manufacture of Wicks for Candles, &c.*

NOW KNOW YE, that in compliance with the said proviso, I, the said William Palmer, do hereby declare that the nature of my said Invention, and the manner in which the same is to be performed, are fully described and ascertained in and by the following statement thereof, reference being had to the Drawings hereunto annexed, and to the figures and letters marked thereon 5 (that is to say):—

My Invention relates, first, to improvements in the manufacture of wicks for candles and for lamps.

Secondly, my Invention relates to machinery for making dip candles in those cases where the dip candles are drawn through holes or dies to shape them. 10

Thirdly, my Invention relates to the coating of mould candles, and candles shaped by dies, with better material.

And, fourthly, my Invention relates to a mode of supplying melted material to, and carrying off the overflow of the dipping mould or vessel, when making dip candles.

And in order that the Invention may be fully understood, and readily carried into effect, I will proceed to describe the means pursued by me.

The first part of my Invention has for its object the manufacture of wicks for candles and lamps, and consists in so making such wicks that they shall each consist of several wicks combined together, side by side, 20 so as to produce the width of wick desired, whether for flat wicks or tubular wicks, and I prefer to use that description of wicks which in burning turn out of the flame when burning in such manner that the current of air passing may dissipate the wick as it is burned and turned out of the flame. It is well known that there are various constructions of wicks which in burning 25 bend out of the flames when being consumed in candles, but such wicks have not been heretofore so combined as to form cylindrical or flat wicks suitable for argand and other lamps, and for hollow candles formed for having a current of air passing through in the manner of argand lamps, as has heretofore been attempted with other constructions of wicks which would not turn out of the 30 flame when burning, nor have cords or such like single wicks been combined together side by side, so as to produce flat or tubular wicks for lamps or candles. The making of the various descriptions of wicks which will turn out of the flame when burning being well understood, and in themselves forming no part of my Invention, it will not be necessary for me to describe 35 the same, other than to say that I prefer to use ordinary plat or the linked plats described in my former Patent, and I use such platted or other wicks which are capable of turning out of the flame, and I place them side by side, and weave them together by throwing in west of yarn, so as to combine them

Palmer's Improvements in the Manufacture of Wicks for Candles, &c.

into a sheet, or I use the yarn as warp threads, and the wicks as weft, taking care that all the wicks are placed in the same position, in order that they will all turn in the same direction, as is well understood, and the fabrics thus produced, when for cylinder wicks, are sewed together at their edges, so as to make 5 that part of the wick as nearly as may be similar to the other parts, so as to produce tubular wicks of the sizes desired. It should be stated that in the weaving together of the separate wicks as little yarn as possible should be used as weft or warp, in order to avoid interfering with the property of turning out of the separate wicks. And I prefer that the direction of the turning out 10 of the several parts of the wick from the flame should be inwards towards the centre of the tubular wick, so that the upward current passing up through the central tube of an argand lamp, or through the centre of a candle, may dissipate the burned part of the wick as it turns out of the flame. When the link plat wick is preferred, then in place of making them in separate cords, as 15 was described in my former Patent, I cause them to be laced or joined together by lacing threads in the warp machinery, wherein they are made, not so as to pull them tightly together, but so as to leave an interval between each two neighbouring parts of a wick, such lacing of cords and other parts of fabrics in warp machinery or warp lace machinery being well understood, when 20 working that machinery to produce other fabrics laced together, or when for cylindrical wicks to be sewed at their selvages, so as to form tubular wicks of the description above described. The tubular wicks thus formed are to be used in the ordinary manner of tubular wicks for lamps and for candles. When the wicks are to be formed of cords, without being intended to turn out 25 of the flames, they are to be combined together side by side at short distances apart, in the manner described, so as to produce tubular or flat wicks, the cords being vertical in the wicks and combined by yarn, so that each two neighbouring cords will be at a distance apart, and these tubular or flat wicks are to be employed in lamps in the ordinary manner.

30 I will now describe the second part of my Invention, which relates to machinery for making dip candles, and this part of my Invention relates to an improvement in the manufacture of dip candles according to the Invention of Mr. Charles Brown, for which Letters Patent were granted on the Fifth day of October One thousand eight hundred and forty-three, such Invention 35 consisting of causing the candles to be drawn through dies or holes to shape them; I have found in carrying out this Invention under licence that a delay takes place in consequence of the candles vibrating by the act of moving the frames of candles to a position over the dies, and it is important for the sake of expedition to apply apparatus in such manner that the whole

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of the candles may be quickly stopped from vibration, so that they may be again caused to descend through the opened dies. The machinery employed according to Mr. Brown's Invention being fully described in his Specification, it will not be necessary to repeat the same here; the Drawings hereunto annexed shew sufficient of that machinery to enable a workman 5 to understand the means shewn of applying my present improvements to such machinery.

Figures 1 and 2 shew two sections of the machinery, having my improvement applied thereto; Figure 3 shews part of a front view, and Figure 4 a plan and section of one of the frames, by which the candles are suspended; 10 and such improvement consists of a series of bars or rods *a, a*, suspended by rods *b, b*, to the frame *d*, which frame being capable of movement up and down by the workmen, the frame *a* being guided in the frame *c*, which in this case is similar to that described in the Specification of Mr. Charles Brown, except that in this case, instead of using the plates *l, m*, to hold the candles 15 correctly over the guaging holes, I employ for that purpose the quadrangular frame *e*, shewn separately at Figure 4. When the candles suspended upon a frame *e* are placed in the frame *c* they vibrate in various directions, to prevent which the workmen lower the series of bars *a* between the rows of candles, which immediately cause the candle to rest perpendicularly, when they may be 20 lowered through the open dies.

In the manufacture of candles of common materials, both mould candles and dip candles, which are drawn through dies according to the Invention of the said Mr. Brown, it is desirable to use common or low price materials in the centre, and better materials externally, and this has before been accom- 25 plished when moulding candles, and also when making dip candles.

Now the object of this part of my Invention is to cause mould candles to be dipped in better materials after they have been taken from the moulds, and also to dip die-shaped candles in better materials after they have been formed, as described in the said Mr. Brown's Specification, in order to obtain a better 30 external surface to such candles at a cheap rate, by which mould and die-shaped dip candles will be greatly improved in character.

In carrying out this Invention I take mould candles which have been made in moulds, the moulds being made somewhat less to allow of an after coating by dipping; or I take die-shaped dip candles, and suspend them on rods or 35 other apparatus, and cause them to be dipped in melted material of a better quality than what has been used in their manufacture, and cause them to be dipped till the desired surface has been obtained; and the materials we prefer to use are stearic acid (generally called stearine) of tallow, combined with

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Palmer's Improvements in the Manufacture of Wicks for Candles, &c.

cocoa-nut oil, in the proportions of about one part of impressed cocoa-nut oil to three or four parts of stearic acid of tallow; but I do not confine myself thereto, this part of my Invention consisting of causing mould candles, and die-shaped dip candles, after they have been made, to be dipped into materials of better quality to obtain a coating thereof, by which candles of low priced materials will be produced, having a much better appearance, and more valuable in their use by a very small additional cost.

I will now describe the fourth part of my Invention, which relates to a mode of supplying the dipping mould or vessel used in the manufacture of 10 dip candles. In making dip candles, it is important that the apparatus used should descend at all times to one fixed position, and therefore that the level of the melted material in the dipping mould or vessel should be kept at one uniform height; and to accomplish this object, I so form the dipping trough that it may overflow if the supply is too great, and at the same time I use a 15 pump to keep up the supply, so that the supply of melted material may be greater in a slight degree than that taken by the dipping of the candles, and that the excess may flow away from the dipping mould or vessel into the reservoir, from which the pump obtains its supply.

Figure 5 shews a cross section of an ordinary dipping mould or vessel, 20 having suitable apparatus applied thereto for carrying out this part of my Invention; Figure 6 is another cross section, taken across the reservoir, from which the dipping mould or vessel is supplied; and Figure 7 shews a longitudinal section of the same. *f* is the dipping mould or vessel, which may be of any suitable form according to the apparatus used therewith; *g* is a trough, 25 into which any excess of melted matter from the dipping trough *f* will flow, and from such trough *g* the melted material will flow back into the vessel or reservoir *h*, which is kept supplied with melted tallow or other material from time to time by the ordinary ladies or other convenient means; *i* is an ordinary force pump, which may be worked by hand, or constantly by machinery, the 30 speed of working it being regulated so as to be equal to the extent of using up the material; *j* is a supply pipe from the pump to the dipping vessel; by these means a supply being kept up in the dipping trough, so that it overflows, will cause the material in the dipping trough to maintain a sufficiently regulated height to allow of the dipping apparatus at all times descending to the 35 same point.

Having thus described the nature of my Invention, and the best means I am acquainted with for performing the same, I do not confine myself to the precise details so long as the peculiar character of either part of my Invention be retained; but what I claim is,—

Palmer's Improvements in the Manufacture of Wicks for Candles, &c.

First, the mode of manufacturing tubular or flat wicks for candles and for lamps, as herein described.

Secondly, I claim the improvements in machinery used for making die-shaped dip candles, as herein described.

Thirdly, I claim the mode of coating mould candles and die-shaped dip 5 candles by dipping them in better materials, as herein described.

And, fourthly, I claim the mode herein described of keeping up a regular supply of melted material, and to a uniform height, in the dipping mould or vessel.

In witness whereof, I, the said William Palmer, have hereunto set my 10 hand and seal, this Fifteenth day of November, in the year of our Lord One thousand eight hundred and forty-four.

WM (L.S.) PALMER.

RICHARDS.

AND BE IT REMEMBERED, that on the Fifteenth day of November, in the year of our Lord 1844, the aforesaid William Palmer came before our 15 said Lady the Queen in Her Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute made for that purpose.

Enrolled the Fifteenth day of November, in the year of our Lord One 20 thousand eight hundred and forty-four.

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1856.